This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended): A plate heat exchanger for indirect heat exchange between at least one heat transfer medium/cooling medium and a plurality of fluid flows comprising:

a heat exchanger core having a plurality of heat exchange passages for flow of at least one heat transfer medium/cooling medium, flow of a first fluid, and flow of a second fluid,

said heat exchanger core (9) having a first component area and a second component area, said first component area containing heat exchange passages for the first fluid flow (40), [[a]] and said second component area containing heat exchange passages for the second fluid flow (30),

wherein said first and the second component areas are not in fluid communication, and said first and second component areas each extend over the height of the heat exchanger core (9) and said passages of said first and the second component areas are rectilinear over the height of said heat exchanger core, the height of the heat exchanger core (9) being its extension in the direction of the main flow through the heat exchange passages, and each of said first and second component areas extends over only part of the width of the heat exchanger core.

2. (Original): A plate heat exchanger according to claim 1, wherein the heat exchanger core (9) has a plurality of separating plates arranged parallel to one another, wherein the spaces between adjacent pairs of plates contain said heat exchange passages for the heat transfer medium/cooling medium (10, 20), the first fluid flow (30, 40, 50), and the second fluid flow (30, 40, 50), and wherein said first and the second component areas each extend over the depth of the heat exchanger core (9), the depth of the heat exchanger core (9) being its extension in the direction perpendicular to the plane of said separating plates.

3. (Original): A plate heat exchanger according to claim 1, wherein the heat

exchanger core has a plurality of separating plates arranged parallel to one another, wherein the spaces between adjacent pairs of plates contain said heat exchange passages for the flow of transfer medium/cooling medium, the first fluid flow, and the second fluid flow, and wherein said heat exchange passages for the flow of heat transfer medium/cooling medium extend over the entire width of the heat exchanger core, the width of the heat exchanger core being its extension in the plane of the separating plates and in the direction perpendicular to the direction of flow through the heat exchange passages.

4. (Original): A plate heat exchanger according to claim 2, wherein said heat exchange passages for the flow of heat transfer medium/cooling medium extend over the entire width of the heat exchanger core, the width of the heat exchanger core being its extension in the plane of the separating plates and in the direction perpendicular to the direction of flow through the heat exchange passages.

5. (Previously Presented): A plate heat exchanger according to claim 1, wherein the heat exchange passages for the heat transfer medium/cooling medium (10, 20) are distributed uniformly over the entire width of the heat exchanger core (9).

6. (Previously Presented): A plate heat exchanger according to claim 1, wherein said heat exchange core has a third component area which is not in fluid communication with said first and second component areas and which extends over the entire height of said heat exchanger core, said third component area containing heat exchange passages for flow of a third fluid flow and said passages of said third component areas are rectilinear over the height of said heat exchanger core, and said third component area extends over only part of the width of the heat exchanger core.

7. (Original): A plate heat exchanger according to claim 6, wherein the heat exchanger core (9) has a plurality of separating plates arranged parallel to one another, wherein the spaces between adjacent pairs of plates contain said heat exchange passages for the heat

transfer medium/cooling medium (10, 20), the first fluid flow (30, 40, 50), and the second fluid flow (30, 40, 50), and wherein said first and the second component areas each extend over the depth of the heat exchanger core (9), the depth of the heat exchanger core (9) being its extension in the direction perpendicular to the plane of said separating plates.

8. (Original): A plate heat exchanger according to claim 7, wherein the heat exchanger core has a plurality of separating plates arranged parallel to one another, wherein the spaces between adjacent pairs of plates contain said heat exchange passages for the flow of transfer medium/cooling medium, the first fluid flow, and the second fluid flow, and wherein said heat exchange passages for the flow of heat transfer medium/cooling medium extend over the entire width of the heat exchanger core, the width of the heat exchanger core being its extension in the plane of the separating plates and in the direction perpendicular to the direction of flow through the heat exchange passages.

9. (Previously Presented): A heat exchanger according to claim 2 wherein said first component area communicates with a single distributor which traverses the depth of the heat exchanger core and a single collector that traverses the depth of the heat exchanger core.

10. (Previously Presented): In a process for cryogenic air-separation comprising separating air into an oxygen product stream and a nitrogen product stream in air rectification system having a heat exchanger for cooling feed air, the improvement wherein said heat exchanger is a plate heat exchanger according to claim 1.

11. (Currently Amended): A process for indirect heat exchange of several fluid flows with a heat transfer medium/cooling medium in a heat exchanger core, comprising:

routing the heat transfer medium/cooling medium, a first fluid flow and a second fluid flow through a plurality of heat exchange passages, wherein the first fluid flow (50) is routed through a first component area of the heat exchanger core (9) and the second fluid flow is routed through a second component area of the heat exchanger core (9), the first and the second

component areas are not in fluid communication, and the first and the second component areas each extend over the entire height of the heat exchanger core and flow through said passages of the first and second component areas is rectilinear over the height of said heat exchanger core (9), the height of the heat exchanger core (9) being its extension in the direction of the main flow through the heat exchange passages, and each of the first and second component areas extends over only part of the width of the heat exchanger core.

12. (Currently Amended): A process according to claim 11, wherein the first and the second fluid flows ~~flow~~ (30, 40, 50) each have a pressure of less than 3.5 bar.

13. (Currently Amended): A process according to claim 11, wherein the first and the second fluid flows ~~flow~~ (30, 40, 50) each have a pressure of 1.1-1.8 bar.

14. (Previously Presented): A process according to claim 11, wherein another fluid flow with a pressure of more than 4 bar is routed through the heat exchanger core.

15. (Previously Presented): A process according to claim 11, wherein the first and second fluid flows are obtained by cryogenic separation of feed air.

16. (Original): A process according to claim 15, wherein the first and second fluid flows are brought into indirect heat exchange with air.

17. (Currently Amended): A plate heat exchanger ~~according to claim 1,~~ for indirect heat exchange between at least one heat transfer medium/cooling medium and a plurality fluid flows comprising:

a heat exchanger core having a plurality of heat exchange passages for flow of at least one heat transfer medium/cooling medium, flow of a first fluid, and flow of a second fluid,

said heat exchanger core (9) having a first component area and a second component area, said first component area containing heat exchange passages for the first fluid flow (40), a said

second component area containing heat exchange passages for the second fluid flow (30),

wherein said first and the second component areas are not in fluid communication, and said first and second component areas each extend over the height of the heat exchanger core (9) and said passages of said first and the second component areas are rectilinear over the height of said heat exchanger core, the height of the heat exchanger core (9) being its extension in the direction of the main flow through the heat exchange passages, and each of said first and second component areas extends over only part of the width of the heat exchanger core; and

wherein, in addition to said first component area and a second component area, said heat exchanger core (9) comprises a third component area and a fourth component area, and each of said component areas extends over only part of the width of the heat exchanger core and over only part of the depth of the heat exchanger core.

18. (Previously Presented): A plate heat exchanger according to claim 1, wherein said heat exchange core further comprises one or more additional component areas, each being connected to a distribution zone (11, 21, 61) having inclined plates and a collection zone having inclined plates (12, 22, 62), each of said additional component areas extending over the entire width of the heat exchanger core, and each of said additional component areas having vertically running heat exchange passages for the flow of fluids (10, 20, 60).

19. (Currently Amended): A plate heat exchanger according to claim 1, wherein said heat exchanger core ~~9~~ (9) is subdivided along its width by separating sheets ~~70~~ (70) to form said first and second component areas.

20. (Currently Amended): A plate heat exchanger according to claim 6, wherein said heat exchanger core ~~9~~ (9) is subdivided along its width by separating sheets ~~70~~ (70) to form said first, second, and third component areas (33, 43, 53).